Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Improvements to the LPFM Radio Service	)	RM-11749
	)	

COMMENTS OF MICHAEL HEMEON

Today's radio listeners have a wide variety of sources of music and the only thing that still attracts listeners to an LPFM station is content. The days of the past where a listener will tolerate interference from fm fade, picket fencing, or interference from another a competing FM through the capture have long past.

Today's listener has access to, and demands, pristine audio quality from many sources that includes music players, news sources, and a selection of thousands of streaming sites.

The only advantage that an LPFM has that is unique to their community is the local content that it can provide in the form of news, local information, and entertainment. The best content is only as good as it can be received by the listener in an environment that is free from the interference characteristics listed in the previous paragraph. If a listener can't hear your station content is irrelevant.

While many LPFM stations are successful reaching their audience in a mobile or portable setting, they fall short when it comes to penetrating the walls of buildings and the increased competition with RFI noise created by the many devices that we take for granted today.

In a paper that was presented at the 2010 NAB Engineering Conference by Steve Johnston, Director of Engineering and Operations for Wisconsin Public Radio a comparison was made of RF noise outside of a typical suburban home, an urban apartment building, and an urban office building and compared to the noise levels inside all of these structures. The contents of the paper can be found @ www.wd8das.net/**IndoorRadioNoise**/**IndoorRadioNoise**-paper.pdf

The equipment that was used for the measurements was a battery powered spectrum analyzer that was set to display the entire FM band from 88-108 MHz and a balun-fed, ¼ wave wire loop antenna was used for all of the measurements taken.

While this test was conducted as a comparison of full power FM and HD applications it is quite pertinent to LPFM radio stations. The output power of an LPFM is substantially lower than a full power FM and an HD radio signal and thus so is the field strength.

The spectrum analysis in (Figure 1.) was measured from outside the suburban home and (Figure 2.) was measured from inside of the home.

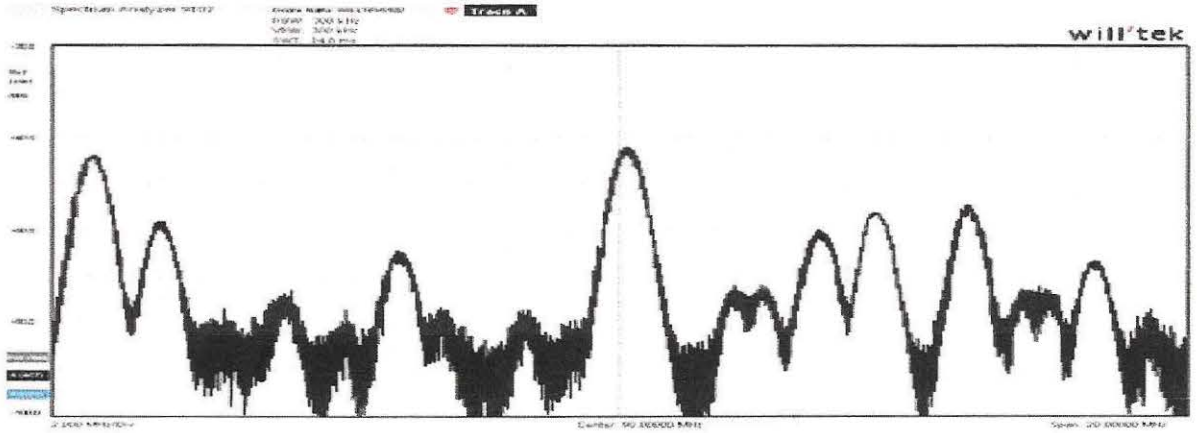


Figure 1-Outside the home

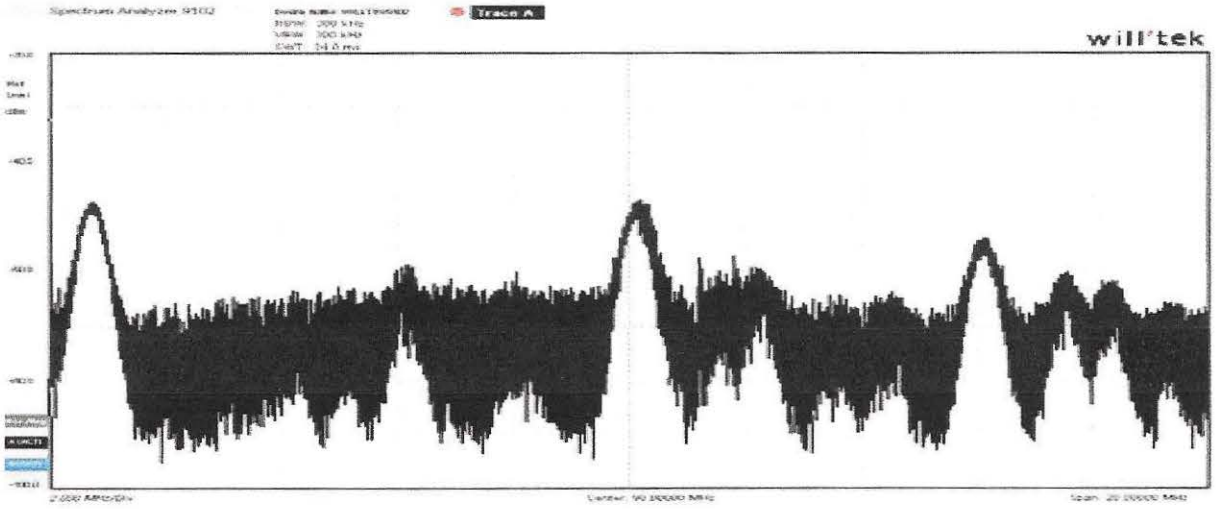
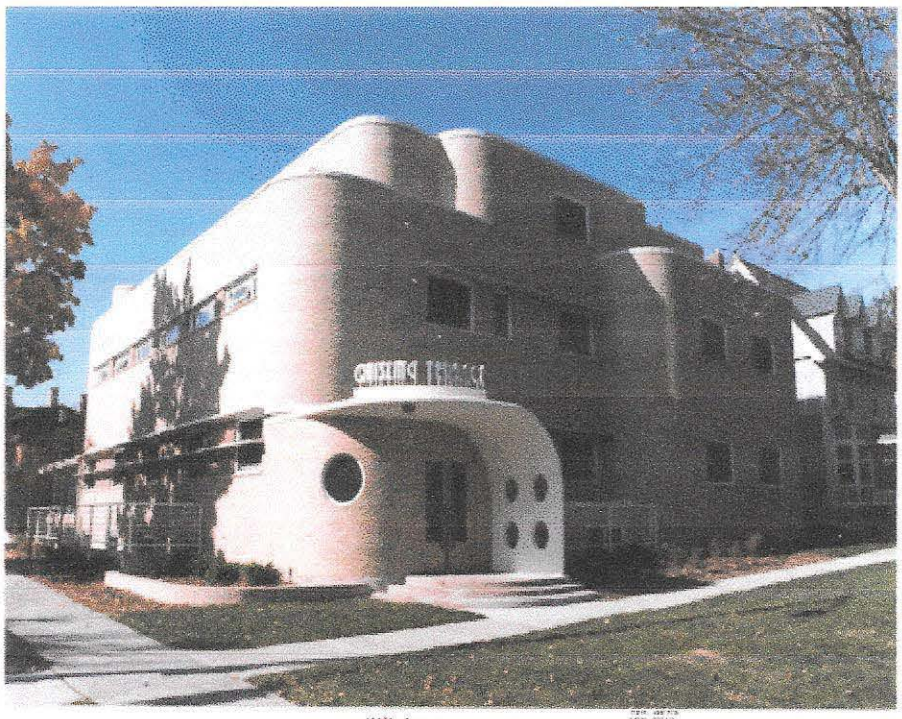


Figure 2 – Inside the home

The spectrum analysis in (Figure 3.) was measured from outside of an urban apartment building and (Figure 4.) was measured from inside of the same apartment building.



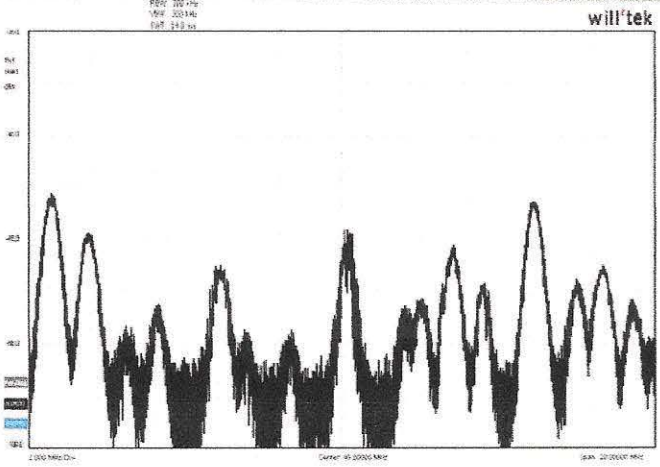


Figure 3-Outside of the building

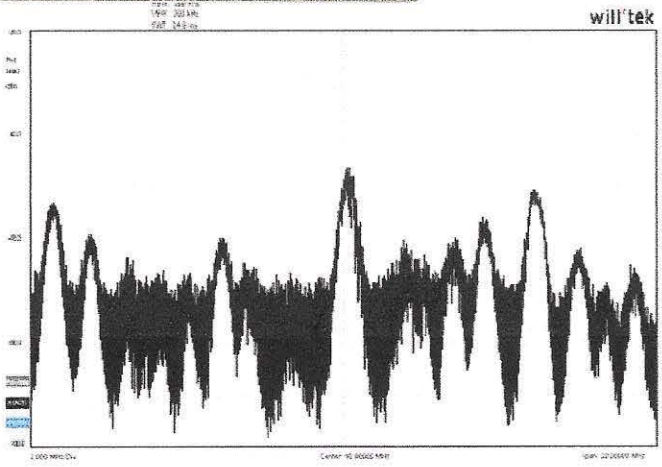


Figure 4- Inside of the building

The most dramatic analysis was seen in the spectrograph of the urban office building as depicted in (Figure 4.) outside of the building and (Figure 5.) inside of the building.

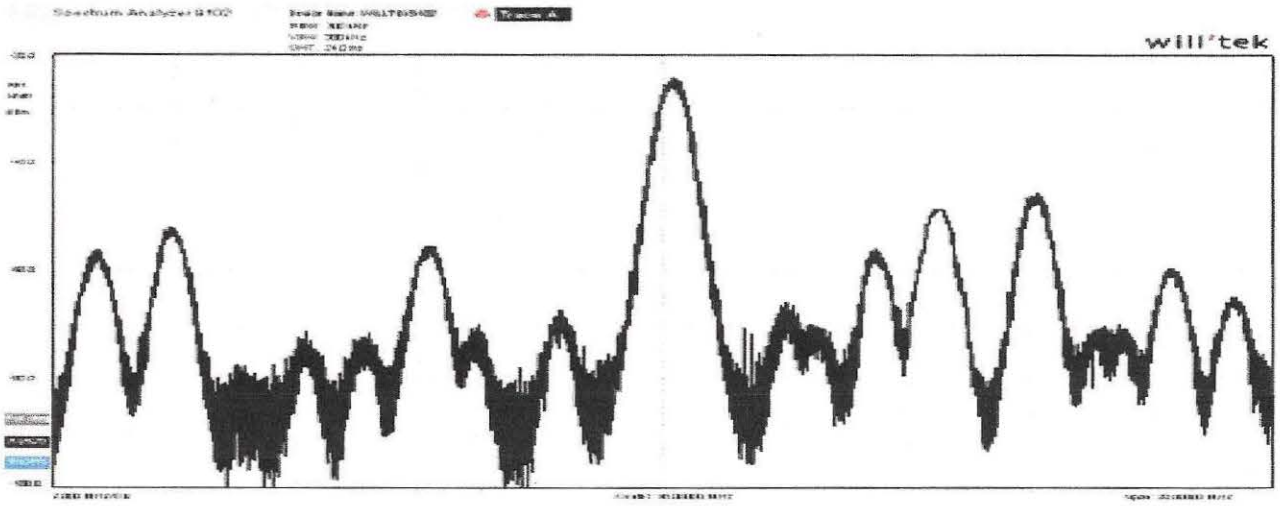


Figure 4- Outside office building

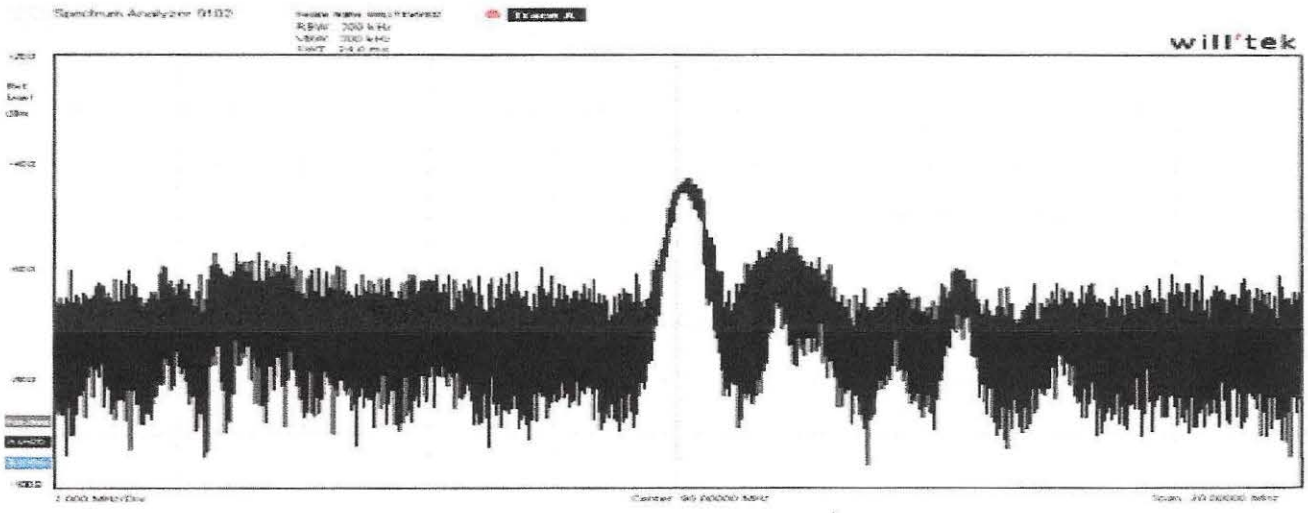


Figure 5 – Inside office building

Some of the conclusions that can be drawn by the comparisons presented in this exhibit are that noise by electrical devices should be of concern to all broadcasters but especially the impact on LPFM stations.

A power increase of up to 250 watts, providing that all spacing requirements are satisfied, seems quite justified and I support this proposal. The power increase will provide the much needed increase in field strength of an LPFM's 60 Dbu Contour.

Respectfully submitted,

Dated: June 12, 2015

Michael Hemeon – CPBE

mhemeon@sbe.org

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